



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/676,269

10/02/2003

Jari Makinen

59643.00331

3464

32294 7590 10/10/2007
SQUIRE, SANDERS & DEMPSEY L.L.P.
14TH FLOOR
8000 TOWERS CRESCENT
TYSONS CORNER, VA 22182

EXAMINER

HAN, QI

ART UNIT

PAPER NUMBER

2626

MAIL DATE

DELIVERY MODE

10/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/676,269

Applicant(s)

MAKINEN, JARI

Examiner

Qi Han

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This communication is responsive to the applicant's response to restriction requirement and amendment filed on 08/06/2007.

Election/Restrictions

2. Applicant's election without traverse of invention Group I, claims 1-21 in the reply filed on 08/06/2007 is acknowledged (see Remark: page 8).

Claims 22-38 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention Group II there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 08/06/2007.

Response to Amendment

3. It is noted that in the response to restriction requirement filed on 08/06/2007, the applicant(s) further amended claims 1, 7-8, 11-14 and 17, cancelled claims 22-38, and added new claim 39 (see the paper filed on 08/06/2007: pages 2-9).

Specification and Drawing

4. The abstract is objected to because it includes some form and/or legal phraseology often used in patent claims, such as word "said", which should be avoided.

Applicant is reminded of the proper language and format for an abstract of the disclosure.

Art Unit: 2626

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. The drawing is also objected to by the Draftsperson (see detail in the attached Form PTO-948).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 8-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "**the determined** parameters". There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 9-11 (depending on claim 8), the rejection is based on the same reason described for claim 8, because the claims include the same or similar problematic limitation(s) as their parent claim 8.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-6, 12, 16-21 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by SU et al. (US 2001/0023395 A1) hereinafter referenced as SU.

As per **claim 1**, SU discloses “a method of encoding a frame in a communication network using a plurality of codec modes, wherein the frame encoded by each codec mode is represented by a plurality of parameters, said method comprising at least one stage” (abstract and Figs 8 and 10), comprising:

“selecting one group from a plurality of groups of codec modes, wherein each of said groups comprises at least one codec mode and is arranged to have a common parameter characteristic” (p75 and Figs 8 and 10, wherein conditional processes (such as blocks 1010 and 1020) are interpreted as stage(s) and branch processes are interpreted as group, ‘selected bit rate (selecting one group comprising at least one codec mode) = 6.65 kb/sec (a common parameter characteristic)’); and

“encoding the frame with one of the codec modes from the selected group in dependence on said common parameter characteristic” (Fig. 10, blocks ‘1030’ to ‘1090’ show encoding a frame; also see p(paragraph)75 and Table 1).

As per **claim 2** (depending on claim 1), SU further discloses “a plurality of stages”, (Figs 8 and 10, as state above; in addition, since the claim limitation is very broad , ‘VAD 235’ for active/inactive voice classification (stage) and block 279 for voice/unvoiced classification

Art Unit: 2626

(stage) in Fig. 2 and p89-p99, and ‘multi-stage VQ’ in p204-p206, can also be broadly read on the claim).

As per **claim 3** (depending on claim 1), SU further discloses “the parameters comprise **one or more of**: a VAD flag, an LTP filtering flag parameter, an ISP parameter, a pitch delay parameter, an algebraic CB parameter, a gain parameter and a high-band energy parameter” (p75 (table 1) and p88-p93).

As per **claim 4** (depending on claim 1), SU further discloses “the parameter characteristic is a bit size of the parameter” (p75 (table 1) and p205-p206).

As per **claim 5** (depending on claim 1), SU further discloses “the frame is a speech frame” (p75).

As per **claim 6** (depending on claim 1), SU further discloses “the selected group consists of (comprises) one or more of said codec modes” (Figs. 8 and 10).

As per **claim 12** (depending on claim 1), SU further discloses “each of the plurality of codec modes defines a bit rate for encoding the frame” (p75).

As per **claim 16** (depending on claim 1), SU further discloses “the plurality of codec modes are codec modes of an adaptive multi rate codec” (abstract and p14).

As per **claims 17-21**, they recite an apparatus. The rejection is based on the same reason described for claims 1-5 respectively, because the claims recite the same or similar limitation(s) as claims 1-5 respectively.

As per **claim 39**, the rejection is based on the same reason described for claim 1, because the claim recites the same or similar limitation(s) as claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over SU in view of CHANG et al. (US 6226607) hereinafter referenced as CHANG.

As per **claim 7** (depending on claim 1), SU does not **expressly** disclose “the step of **selecting ... is in dependence on parameters** determined from the encoding of the frame”. However, the feature is well known in the art as evidenced by CHANG who discloses ‘speech coding decision process’, and teaches that ‘energy (parameter) is a measure of the speech activity of the frame’ and if it ‘falls below a predefined threshold level’, ‘the speech coder encodes the frame as background noise’ and selects ‘1/8 rate’, and that other parameters are used to determine voice/unvoiced speech for different encoding rates (selecting ... depending on parameters) (Fig. 4 and col. 5, lines 1-67), as claimed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify SU by providing selecting a encoding process based on the frame parameter(s), such as energy, as taught by CHANG, for the purpose (motivation) of sufficiently classifying the speech frame so as to use suitable encoding rates (CHANG: col. 15, lines 19-49).

Further, in another view of SU’s disclosure, SU teaches ‘an encoder processing circuit adaptively selects a particular encoding scheme (herein interpreted as codec mode or mode group) based on various parameters including bit rate and speech signal characteristics’, which

Art Unit: 2626

can also be properly read the claim, based on broadest reasonable interpretation in light of the specification. This means that the teachings by SU alone can be satisfied for the claim rejection.

As per **claim 8** (depending on claim 1), as best understood in view of the claim rejection under 35 USC 112 2nd (see above), SU in view of CHANG further discloses “the determined parameters are compared to threshold values” (SU: p93-p99; CHANG: col. 5, lines 5-49).

As per **claim 9** (depending on claim 8), the rejection is based on the same reason described for claims 7-8, because it also reads on the claim.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over SU in view of CHANG as applied to claim 8, and further in view of well known prior art (MPEP 2144.03).

As per **claim 10** (depending on claim 8), SU in view of CHANG does not expressly disclose “the thresholds values are dependent on a target bit rate”. However, an office notice is taken that a threshold value being dependent on a target bit rate for signal encoding was well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify SU in view of CHANG by providing related parameter threshold value(s) depending on a target bit rate, because in the multi-rate speech coding system (such as SU’s encoder), different target bit rates effect bits size/length of processed/quantized parameter(s) as well as the corresponding threshold value(s).

10. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over SU.

As per **claim 13** (depending on claim 1), SU does not **expressly** disclose “said at least one stage being arranged to have a group with a codec mode with a lowest bit rate and another

Art Unit: 2626

group with remaining codec modes”. However, it is noted that SU teaches ‘the AMR codec modes with different rates and the corresponding parameter grouping/arrangement (see p74 (table 1)); ‘adaptively selects a particular encoding scheme (group) based upon various parameters’ (p561); and arranging stage(s) for encoding schemes/groups, including ‘middle bit rate’, ‘high bit rate’, equal, above or below certain bit rate (Figs. 8 and 10). For example, SU shows block ‘1020’ branch ‘no’ (Fig 10) arranges groups with bit rates below 6.65 kb/sec, which inherently includes codec mode with a lowest bit rate of 4.55 KBPS and another bit rate of 5.8 KBPS (p75). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine different teachings of SU by providing arrangement with multiple coding schemes/groups that may include a codec mode with lowest bit rate or the other codec modes based on various parameters, such as Predictor for LSF and/or Quantization (SU p75), suggested by SU himself, for the purpose (motivation) of efficiently using encoder processing resources and/or effectively coding a speech signal at varying bit rates (SU: p11 and p14).

As per **claim 14** (depending on claim 13), the rejection is based on the same reason described for claim 13, because it also reads on the limitation of claim 14, wherein the conditional processes (SU: Figs. 8 and 10; and CHANG: Fig. 4) can be interpreted as stages.

As per **claim 15** (depending on claim 15), the rejection is based on the same reason described for claims 13 and 14, because it also reads on the limitation of claim 15, wherein the conditional process 312 (CHANG: Fig. 4) can be interpreted as the third stage. In addition, in another view of SU, when the branches of conditional processes are interpreted as stages (see SU: Figs. 8 and 10), SU’s disclosure can also satisfy the claim for the rejection.

Art Unit: 2626

Conclusion

11. Please address mail to be delivered by the United States Postal Service (USPS) as follows:

Mail Stop _____
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

or faxed to: 571-273-8300, (for formal communications intended for entry)

Or: 571-273-8300, (for informal or draft communications, and please label "PROPOSED" or "DRAFT")

If no Mail Stop is indicated below, the line beginning Mail Stop should be omitted from the address.


Effective January 14, 2005, except correspondence for Maintenance Fee payments, Deposit Account Replenishments (see 1.25(c)(4)), and Licensing and Review (see 37 CFR 5.1(c) and 5.2(c)), please address correspondence to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolater, etc.) as follows:

U.S. Patent and Trademark Office
Customer Window, Mail Stop _____
Randolph Building
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qi Han whose telephone numbers is (571) 272-7604. The examiner can normally be reached on Monday through Thursday from 9:00 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov. For general information about the PAIR system, see <http://pair-direct.uspto.gov>.

QH/qh
October 5, 2007

 10/5/07